

Procedure:

1. Remove and properly dispose of materials dumped in and around the sinkhole.
2. Excavate loose material from the sinkhole and try to expose the solution void(s) in the bottom. Enlarge the sinkhole, as necessary, to allow for installation of the filter materials.
3. Install a geotextile envelope on the bottom, sides, and top of the total rock, gravel, and stone placement.
4. Select a field stone(s) that is about 1.5 times larger than the solution void(s). Place the stone(s) into the void(s) forming a secure "bridge."
5. Place a layer of filter material over the "bridge" at a minimum thickness of 18 inches. About 30 percent of the material should be larger than the openings between the bridge and the void(s). (A well placed "bridge" should not have large openings around it.) This material should be No. 4 rock.
6. Place a layer of smaller size filter material over the previous layer at a minimum thickness of 9 inches. The size should be 1/4 to 1/2 the size of the previous layer. This material should be No. 57 stone. Thoroughly compact.
7. Place a layer of crushed stone material over the previous layer at a minimum thickness of 9 inches. This material should be 2A modified stone. Thoroughly compact.
8. Install a compacted clay seal at least 12" thick over the modified stone. Place in 2 lifts and thoroughly compact each lift.
9. Install an 8" minimum concrete cap (optional). Use 4,000 psi concrete with 6"x6" - 6 gauge welded wire fabric, or #3 rebars on 18" O.C. both ways.
10. Finish the treatment with a soil or topsoil cover, at least 12" thick. Grade for positive field slope away from the site.

Notes:

The geotextile shall be non-woven, with a burst strength between 100 to 200 psi. Geotextile can also be substituted for the filter materials discussed in 6 and 7.

2. Stone used for the "bridge" and the filters should have a rock strength at least equal to moderately hard (i.e. resistant to abrasion or cutting by a knife blade but can be easily dented or broken by light blows with a hammer). Shale or similar soft and non-durable rock is not acceptable.

Sinkhole Treatment C : Impervious Cover

